

having both at least a high dislocation density region and at least a low dislocation density region lower in dislocation density than said high dislocation density region,

A1  
end wherein said low dislocation density region includes a current injection region into which a current is injected, and said active layer is less than  $1 \times 10^{18} \text{ cm}^{-3}$  in impurity concentration,

wherein a dislocation density of the low dislocation density region is not more than one tenth of at least one of a dislocation density of the high dislocation density region and an averaged dislocation density of the active layer.--

---

Cancel claims 2 and 3.

Amend claim 11 as follows:

---

A2 --11. (amended) The nitride based semiconductor photo-luminescent device as claimed in claim 1, wherein said nitride based semiconductor photo-luminescent device is provided over dielectric mask patterns provided on a gallium nitride top surface of an epitaxial lateral overgrowth substrate, and said dielectric mask patterns have a mask width of not less than 25 micrometers.--

---

Cancel claim 12.

Amend claim 19 as follows:

---

A3 --19. (amended) The nitride based semiconductor photo-luminescent device as claimed in claim 1, wherein said active layer comprises a multiple quantum well structure comprising

alternating laminations of undoped quantum well layers and Si-doped potential barrier layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$ .--

[Amend claim 20 as follows:]

A3  
--20. (amended) The nitride based semiconductor photoluminescent device as claimed in claim 1, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of Si-doped quantum well layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$  and undoped potential barrier layers.--

[Amend claim 21 as follows:]

--21. (amended) The nitride based semiconductor photoluminescent device as claimed in claim 1, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of Si-doped quantum well layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$  and Si-doped potential barrier layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$ .--

[Amend claim 22 as follows:]

--22. (amended) A nitride based semiconductor photoluminescent device having an active layer over an epitaxial lateral overgrowth substrate having a dielectric mask pattern with a window region, said active layer having both at least a high dislocation density region positioned over said window region and at least a low dislocation density region positioned

over said dielectric mask pattern, and said low dislocation density region being lower in dislocation density than said high dislocation density region,

A3  
end  
wherein said low dislocation density region includes a current injection region into which a current is injected, and said active layer is less than  $1 \times 10^{18} \text{ cm}^{-3}$  in impurity concentration, and

wherein a dislocation density of the low dislocation density region is not more than one tenth of at least one of a dislocation density of the high dislocation density region and an averaged dislocation density of the active layer.--

---

Cancel claims 23 and 24.

Amend claim 37 as follows:

---

A4  
--37. (amended) The nitride based semiconductor photoluminescent device as claimed in claim 22, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of undoped quantum well layers and Si-doped potential barrier layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$ .--

[Amend claim 38 as follows:]

--38. (amended) The nitride based semiconductor photoluminescent device as claimed in claim 22, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of Si-doped quantum well layers having an

impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$  and undoped potential barrier layers.--

[Amend claim 39 as follows:]

--39. (amended) The nitride based semiconductor photo-luminescent device as claimed in claim 22, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of Si-doped quantum well layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$  and Si-doped potential barrier layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$ .--

[Amend claim 40 as follows:]

--40. (amended) A nitride based semiconductor photo-luminescent device having an active layer over a mask-less epitaxial lateral overgrowth substrate having a stripe-shaped nitride based semiconductor pattern with a window region, said active layer having both at least a high dislocation density region positioned over said stripe-shaped nitride based semiconductor pattern and at least a low dislocation density region positioned over said window region, and said low dislocation density region being lower in dislocation density than said high dislocation density region,

wherein said low dislocation density region includes a current injection region into which a current is injected, and said active layer is less than  $1 \times 10^{18} \text{ cm}^{-3}$  in impurity concentration.--

Amend claim 53 as follows:

---

--53. (amended) The nitride based semiconductor photo-luminescent device as claimed in claim 40, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of undoped quantum well layers and Si-doped potential barrier layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$ .--

A5 [Amend claim 54 as follows:]

--54. (amended) The nitride based semiconductor photo-luminescent device as claimed in claim 40, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of Si-doped quantum well layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$  and undoped potential barrier layers.--

[Amend claim 55 as follows:]

--55. (amended) The nitride based semiconductor photo-luminescent device as claimed in claim 40, wherein said active layer comprises a multiple quantum well structure comprising alternating laminations of Si-doped quantum well layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$  and Si-doped potential barrier layers having an impurity concentration of less than  $1 \times 10^{18} \text{ cm}^{-3}$ .--

---

REMARKS

The abstract, specification, and claims have been amended to make editorial changes therein to place the